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FROM:
**DoD Controlling Organization: Department
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General, Washington, DC 20310.**

AUTHORITY

**4 May 1979 per Group-4 document marking;
Adjutant General's Office [Army] ltr dtd
29 Apr 1980**

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18) OACSFOR 19) OT-RD-660343

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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO
AGAM-P (M) (26 Apr 67) FOR OT

11
4 May 1967

12 54p.

SUBJECT: ~~CONFIDENTIAL REPORT~~ Lessons Learned, 12th Combat Aviation Group [W]-8

Headquarters,

TO: SEE DISTRIBUTION

1. Forwarded as inclosure is Operational Report - Lessons Learned, Headquarters, 12th Combat Aviation Group for quarterly period ending 31 October 1966. Information contained in this report should be reviewed and evaluated by CDC in accordance with paragraph 6f of AR 1-19 and by CONARC in accordance with paragraph 6c and d of AR 1-19. Evaluations and corrective actions should be reported to ACSFOR OT within 90 days of receipt of covering letter.

2. Information contained in this report is provided to the Commandants of the Service Schools to insure appropriate benefits in the future from lessons learned during current operations, and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

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(Continued on page 2)

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 12TH COMBAT AVIATION GROUP
APO San Francisco 96491

AVGC-SC

SUBJECT: Operational Report for Quarterly Period Ending 31 October 1966,
Reports Control Symbol CSFGR-65 (U)

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SECTION I

SIGNIFICANT UNIT ACTIVITIES

1. (U) GENERAL: The 12th Combat Aviation Group, with some 403 aircraft on hand at the end of the reporting period continued its primary role of providing Army Aviation support to the ground tactical units in the 31st CTZ. Responsiveness and effectiveness of aviation support continued to be facilitated by a close working relationship between commanders and staffs of the respective headquarters concerned as well as a better understanding of techniques at the operator level. During this ~~period~~ period, the number of units to be supported increased without a proportionate increase in the number of supporting aviation units. ~~Some~~ Accomplishments during the reporting period included the completion of an extensive personnel infusion program in order to prevent a drop in efficiency because of a mass rotation of people of any one unit in any one month, and the development of simplified warning system to better protect aircraft in flight from friendly artillery fire. The Group Training Program was expanded and intensified, particularly by increased use of the CH-47 Mobile Training Team, an Air Mobility Training Team, Pathfinder Training Program, and other special programs. Although aircraft availability showed marked improvement, especially in the case of CH-47's, more requests for aviation support were received than could be provided. The number of customers has continued to increase faster than the numbers of aircraft and crews to support the demands. Commendations were received from higher headquarters as a result of outstanding performance on the Annual General Inspection conducted during August 1966. Subordinate units and personnel of the Group continued to receive many informal commendations, individual decorations, and letters of appreciation from supported units for the outstanding manner in which they have been performing their many missions.

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B. (U) MISSION:

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1. 12th Combat Aviation Group provided Army Aviation support to CG, II FFORCEV, Senior Advisor III RVN Corps and Senior Advisor IV Corps TZ. At the direction of CG, II FFORCEV, provided support to US, RVN, and FVMAF Forces in III CTZ.

2. Provided Army Aviation Support forces as directed by COMUSMACV for support of US, RVN, and FVMAF Forces in IV CTZ.

3. Commanded (less OPCON where specified) and administered assigned and attached Army aviation and support units.

C. (C) ORGANIZATION:

1. Organization of 12th Combat Aviation Group during the reporting period included the following units, with headquarters located as indicated:

- a. 12th Combat Aviation Group, LONG BINH.
- b. 11th Combat Aviation Battalion, PHU LOI.
- c. 145th Combat Aviation Battalion, BIEN HOA.
- d. 222nd Combat Support Aviation Battalion, VUNG TAU.

In addition, these units had sub-elements stationed at CAN THO, SOC TRANG, PHUOC VINH, CU CHI, and LAI KHE, as well as at field positions when called for by operations.

D. (U) COMMAND: Significant changes of command in 12th Combat Aviation Group during this reporting period were:

1. On 12 August 1966, LTC Howard M. Moore was named Deputy Commander of 12th Combat Aviation Group, replacing LTC Jack T. Dempsey.

2. On 17 August 1966, LTC Athol M. Smith assumed command of the 222nd Combat Support Aviation Battalion from LTC Ellsworth F. Vassar.

E. (U) PERSONNEL:

1. Administration: An ever increasing amount of reports, statistics and routine correspondence has been the rule during the past quarter. Absorption of this load has been accomplished by decentralization of the various functions of the S-1. A program of specialization has been gradually developed with a high degree of flexibility. Each area of interest that follows has been more thoroughly explored and revised with notable accomplishments realized. In the current configuration of the S-1 section, an additional workload, imposed by assignment of more units, can be accomplished without a further increase of personnel.

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2. Personnel:

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a. GENERAL: A vigorous internal and external infusion program initiated by this headquarters has resulted in complete reduction of all but one DEROS hump in units of this group. The one exception is a unit that arrived in-country 3 months ago and is currently 50% infused. External infusion will be accomplished shortly to bring it to the 20% maximum DEROS per month set by this headquarters. The net result has given each company in this group a stable platform of "in-country" experience and has better equipped each unit to accept and train incoming personnel. Operational capabilities are at their highest levels and training humps have been reduced. Each new unit arriving into this command will be infused in a similar manner.

b. OFFICERS: Replacements are arriving in a steady stream and this Group continues to remain above the 90% manning level. This is directly attributable to sound personnel practices and detailed daily checks. Gains and losses have been evenly matched during the period. Each unit is required to have a slot roster for all TO&E positions for assigned and attached units. Posting of "approved and requisition" numbers has resulted in visual reference to requisition requirements and has all but eliminated costly oversights on replacement procurement. This group does not have any significant officer, MOS, or other qualification shortages.

c. Enlisted men: Promotion changes became effective 3 October 1966, when delegation of authority to issue promotion allocations in grades E-4 through E-6 was given to Group headquarters. As a result, a monthly report to USARV has been eliminated. The increase of second in-country promotions from one half on one percent to one and one half percent to grade E-6 and from one percent to two percent to grade E-5 has made possible promotion of a substantial number of deserving personnel.

3. Sundry Funds: In the past, all non-appropriated funds maintained their individual bank accounts in banks that were out of country. This method of controlling funds was not adequate because of our distance from the banking facility and the length of time needed to complete transactions. With the establishment of in-country banking facilities through the Bank of America and the Chase Manhattan Bank, non-appropriated funds have a closer working relationship with their respective banks, which expedites completion of bank transactions.

Sundry Funds, clubs and messes have been found deficient in the financial administration of their funds. USARV Reg 230-60 clearly outlines the complete administration of these funds and it has become apparent that assistance from USARV Headquarters is needed to set up a quarterly audit program in order to recognize and correct specific problem areas. This is being done.

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4. Unit Funds: Group units have not had individual bank accounts prior to October 1966, in the Republic of Vietnam. Previously the only way expenditures could be made from allocated funds held at the Saigon Central Post Fund was by submitting a bill to the 12th Group representative which in turn forwarded the request and later received authorization from the Saigon Central Post Fund, and then returned the authorization to the Unit. This seemed to be such an involved procedure that most units did not fully utilize their accumulated funds. With the initiation of individual unit accounts at company level, the units will have the means to operate under normal unit fund procedures resulting in increased utilization of these funds and improved morale of the enlisted men.

5. Ground Safety: The 12th Combat Aviation Group has recently completed a survey pertaining to accident prevention and authorized use of government vehicles. All battalions and Headquarters 12th Combat Aviation Group submitted their current vehicle control and accident prevention policy to Headquarters USARV. Command emphasis has been placed on the driving of vehicles in Vietnam. During the reporting period, all elements of the Group drove assigned vehicles for a total of 924,669 miles and sustained only two recordable vehicle accidents involving RVN Nationals. Command emphasis has also been placed on the control of firearms and issue of ammunition. This includes changes to SOP's and new policy guidance to reduce, and hopefully eliminate, the misuses and accidental firing of weapons.

6. Awards and Decorations: Procedures on the submission and processing of awards have greatly improved. During this period 6,105 recommendations were submitted. The greatest improvement was the initiation of the 1st Aviation Brigade Form 21, which has enabled the units to recommend over 30 individuals on one single form. This has considerably lightened the administrative burden upon the companies. There has also been an improvement in the preparation of USARV Form 157. Careless administrative errors have been reduced which has enabled expeditious handling of awards resulting in more timely presentation. One problem area still existing concerns orders that have not been received by the units after particular recommendations have been approved. This headquarters is initiating a suspense file to control all orders returned through channels which will provide a running check on outstanding awards.

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7. Information Program: During the past quarter the following hometown releases, news releases and photo releases were given to the news media:

a. Hometown Releases	189
b. News Releases	54
c. Photos	62

Considerable improvements in the troop information program has been made. The HEC Commander, Chaplain and other staff sections are required to give monthly talks to the enlisted personnel of Headquarters 12th Group. In addition the 12th Group prepares and disseminates a weekly bulletin to all elements of the 12th Group. Two battalions are printing a bi-monthly newspaper. A monthly meeting of all Group IO Officers has been instituted. The purposes of the monthly meeting are for an exchange of information, command guidance, and procedures for news releases, hometown releases, handling of photos, and any changes in Army and command policy. An orientation pamphlet has been prepared and is distributed to all enlisted men upon arrival at this headquarters. Subordinate units have continuously updated their own orientation procedures to meet the continuing changes.

8. Education: An education program has been developed by and within the Group headquarters with outstanding results. At the end of this quarter, 14 enlisted men are enrolled in correspondence courses through USAFI participating colleges and universities. USAFI Test Control Officers have been appointed at this headquarters and at each battalion. This has facilitated the operation of the education program, since each USAFI Test Control Officer submits applications direct to the USAFI Headquarters in Madison, Wisconsin and has the authority to administer USAFI and college end-of-course tests. A goal for the next quarter is to improve this program in the battalions.

9. Civic Action: During this period, the Group submitted an average of 75 projects a week, was directly involved in 7 different building programs, and employed an average of 800 laborers each week. In the area of Education, the Group as a whole teaches an average of 1174 students each week. While there has been no large increase in numbers of projects, the quality of each project effort has been improved. The gain over the last quarter in education and employment is about 30% in education and 40% in employees. The Group headquarters has completed the project atop NUI BA DEN Mountain in which man-hours, air transport and materials were donated for the re-building of the village. This was a joint project with the 1st US Infantry Division. The Group has assumed the civic action responsibility of a new project for the village of TAN VAN. This will include community relations, MEDCAP, and limited construction. Also the Group headquarters utilized three (3) volunteers to teach Conversational English to 600 students each week at the Catholic high school in HO NAI.

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10. R and R Program: During the past quarter, a number of people have voiced complaints against the R&R program. The majority of these complaints were made by individuals who found upon arrival at the R&R departure point, that they had not been placed on aircraft manifests. Starting in December quotas will be received directly from USARV. This will greatly simplify matters and should eliminate the problem of people not being manifested. An in-country R&R program has been established within this command. As a result, individuals have been utilizing the excellent facilities provided at the VUNG TAU R&R Center. The 3 day in-country R&R program has been a big morale factor.

11. Special Services: Special Service items and equipment have been readily available. USA Support Command has established a suspense date each month for submission of requests. This has provided a more organized and efficient system for units to periodically request the desired equipment. There has also been a decrease in the amount of time taken to fill these requests.

12. Reenlistment Rate: The Group's current reenlistment rate averages approximately 12 percent. This relatively low reenlistment rate is attributed to extensions of service that do not reflect in the reenlistment rates and the fact that the majority of personnel returning to CONUS are not eligible for reenlistment at the time of their DEROS.

13. Extensions of Foreign Service Tours: Seven officers and 211 EM extended their tours during this reporting period. In comparison with the previous quarter, this represents an increase of 233% for officers and 120% for EM. This has much the same effect as reenlistments.

F. (C) INTELLIGENCE:

1. Visual Reconnaissance: A visual reconnaissance collection and reporting project was initiated on 20 September 1966 utilizing O-1 aircraft organic to the group, with monitoring and reporting being accomplished by the S-2 Section. Primarily aimed at gathering, evaluating and passing to higher headquarters information on VC tax collection activities, the system proved to be of value for the rapid relaying of various other significant sightings and has since been expanded to include the reporting of any significant enemy activity. Generally two O-1 aircraft were assigned to the VC tax collection point mission, however, all aircraft organic to the group have been enjoined to report sightings of enemy activities directly to the monitoring station. Aircraft specifically assigned to the project fly varying patterns at irregular intervals throughout the III CTZ to preclude possible compromise of the mission. Sightings obtained have contributed to an analysis of VC tax collection methods and likely locations and provided basis for planning attacks on such activities. At the close of the period, 179 sightings had been reported by aircraft assigned to the project, 141 of which pertained specifically to VC tax collection efforts. The project has additionally yielded information useful in the coordination and operation of a centralized visual reconnaissance collection and dissemination point.

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2. Security:

a. The S-2 Section continued in its capacity as the focal point of command guidance throughout the group for matters pertaining to personnel security and safeguarding of classified material.

b. During the period, authority was delegated to subordinate battalion commanders to validate TOP SECRET and SECRET clearances of newly assigned personnel and to grant crypto access as required. This action substantially decreased the delay in authorizing access to classified material for such personnel, making them available for duty sooner than was previously possible. In addition, this action reduced the number of personnel security actions administered by the group S-2 from approximately 900 during the previous quarter to 195 for this report period.

c. The classified files and distribution facility operated by the S-2 Section processed approximately 6595 incoming and 4771 outgoing pieces of classified material during the period. During the semi-annual inventory completed 1 October 1966, all classified files were reviewed for destruction or downgrading, resulting in the destruction of 469 SECRET documents and a considerable quantity of CONFIDENTIAL material. The classified repository contained 379 SECRET documents at the close of the period.

d. The Group experienced no security violations during the period requiring investigation under the purview of paragraph 42, AR 380-5. Corrective action was directed by DA Form 2134 (Security Violation(s) Report) on 25 administrative violations.

e. A procedural guide for censorship activities in the form of a group regulation was published to provide a basic planning vehicle for the headquarters and subordinate elements and to ensure preparedness in the event of censorship imposition.

f. The plan for emergency evacuation or destruction of classified material within the group headquarters was revised and now prescribes specific instructions on categorizing material by priority so that material receives protection according to its classification and sensitivity. Detailed instructions were included on the use of destruction devices with emphasis on steps to be followed when the M-4 destruction kit is employed.

g. With a view toward increasing the awareness of all personnel in regards to communications security, a guide was published which is posted by every telephone instrument in the group indicating topics not to be discussed in telephone conversations. At varying times throughout the period, the group communications systems were monitored by the 303rd Radio Research Battalion. Corrective action was taken on a few minor violations though the overall results of the monitoring indicated a high degree of communications security consciousness.

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3. Annual General Inspection: The S-2 Section was inspected by representatives of the Office of the Inspector General, USARV, on 17 August 1966. The inspection was thorough and comprehensive concerning all facets of personnel and documents security. The section personnel were examined on procedures pertaining to personnel security, administration, and the handling of classified defense information. The storage facilities of the classified repository and control procedures for classified material were inspected. The report indicated that classified material is being handled in an outstanding manner. No deficiencies were noted nor recommendations made by the inspection team. Problem areas pertaining to personnel security administration referred to in Operational Report for Quarterly Period Ending 31 July 1966, which could not be resolved in the Group, were brought to the attention of the Inspector General representatives. The problems were taken under advisement and a response was received about 25 October 1966. The revision of a command guidance publication, USARV Regulation 604-5, altering local requirements, served to alleviate certain situations; however, the bulk of the problems presented remain unresolved.

4. Aerial Photographic Reconnaissance: With all photo reconnaissance aircraft, including the OV-1, remaining under operational control of MACV J-2, the group has no photo reconnaissance capability immediately available to the commander. In an effort to correct this situation it was determined that a small format, hand-held, polaroid type camera would provide an interim capability to satisfy requirements for photo coverage of highly perishable intelligence targets. Accordingly, approval for requisitioning such an item was obtained in May 1966. Based on this approval, 26 such cameras were requisitioned. To date, 3 cameras have been received.

5. Staff Visits:

a. The S-2 and Assistant S-2 made staff visits to each subordinate battalion headquarters during the period, providing intelligence and security guidance as appropriate and maintaining continuity and uniformity of effort. These visits have proved to be highly beneficial in resolving small problem areas and allaying minor deviations from policy; situations which normally would not be detected through other than personal exposure.

b. Regularly scheduled liaison visits are made weekly to USARV headquarters by a representative of the S-2 Section with visits to the 1st Aviation Brigade included when practicable. Daily contact is maintained with representatives of the ACofS, G-2, II FFORCEV.

6. Review of Report Requirements: A continuous analysis of existing report requirements with a view toward reducing their volume and increasing their value was conducted during the period. One weekly report and one monthly report were discontinued as a result of this effort. Current requirements levied by the S-2 are valid and meaningful and are generally proscribed in a manner ensuring minimum effort in preparation.

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7. Improvement of Facilities: The internal physical facilities of the areas occupied by the S-2 Section have been substantially improved during the period, completely on a self-help basis. The classified repository was improved by the addition of a work counter, distribution breakdown shelving, and storage shelving. A service counter and enclosure, limiting access to the area, was built at the entrance to the building in the room adjacent to the repository area. The walls of the main office were surfaced to provide space for mounting charts and cartographic material and the room was painted to provide increased illumination efficiency from existing fixtures.

8. Cartographic Material:

a. With the exception of a few unprinted or out-of-stock sheets, full coverage of the group area of influence and certain other areas of interest in two new map series was acquired in sufficient quantity to satisfy operational requirements. The L7014 series 1:50,000 maps, in a more useful 15' x 15' format, and the L8020 series pictomaps, scale 1:25,000, were made available during the period and promise to more adequately satisfy aviation operational requirements.

b. Requisitions for storage cabinets for cartographic material have not been filled causing a considerable degree of inefficiency in the storage, retrieval and stock level control of such material. These requisitions are outstanding since March 1966.

G. (C) OPERATIONS:

1. Safeguarding Aircraft From Artillery Fire: The increasing numbers of artillery units and aviation units becoming operational in Vietnam have caused an increased possibility that aircraft may be inadvertently hit in flight by friendly artillery fire. A system of air corridors was established on 23 July 1966, but proved impractical in use. The air corridors allegedly were safe passages through artillery fires but in several instances, trajectories passed through the corridors due to tactical necessity and no warning was given. The corridor system in particular did not guarantee the no-fire of ARVN or FVMAF artillery. The corridors channeled air traffic to the point that mid-air collisions became more probable. Although the enemy did not take advantage of the system, he could have concentrated his anti-aircraft effort along certain corridors. A new system is now in effect establishing ten primary Artillery Warning Control Centers within III CTZ. All artillery information, to include that of ARVN and FVMAF, is reported to the centers and broadcast on frequencies which are unclassified and do not change. An implementing regulation will be published on 15 November 1966.

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2. Notices to Airman (NOTAMS): The rapid build-up of forces and facilities has produced many significant changes in airfield conditions, control tower frequencies, and other items important to safety of flight and efficient operations. No agency was charged with the responsibility to collect and disseminate the information. The Signal Officer, 12th Combat Aviation Group, acting as the representative of the Group Commander, by direction of CG, II FFV, now collects and transmits NOTAMS as required to all interested agencies in II, III, and IV Corps Tactical Zones. This immediately available information supplements the Air Force Planning Chart published quarterly and information sheets published monthly by the 125th Air Traffic Control Company.

3. Project FIREFLY: FIREFLY, formerly LIGHTNING BUG, is a tactic employed using a UH-1 helicopter equipped with a Helicopter Illumination System in conjunction with a fire team of two armed helicopters. The lighting system is composed of a bracket containing seven landing lights from C-123 aircraft which are rated at 600 watts each. In practice, the light-equipped aircraft is flown lower than its maximum effective illumination altitude of 1,500 feet while the fire team trails behind; one gun ship higher and one lower than the light ship to engage any targets produced. Only one system was available to the 12th Combat Aviation Group during the reporting period but the results were truly impressive. The most successful use of FIREFLY has been to locate and destroy enemy sampans. During the period 9 sampans were damaged and 242 destroyed. It has also been effective in disrupting enemy attacks of outposts. In several cases, attacks under way on outposts were stopped when the FIREFLY team arrived and illuminated the area. Additional Helicopter Illumination Systems are being fabricated to be issued one to each assault helicopter company. Another system utilizing a Xenon lamp has been requested since it may prove superior when development is completed.

4. Special Projects:

a. An Aircrew Member Head Protector was tested and evaluated by seven assault helicopter companies during the reporting period. The light weight armor prevented serious or fatal head injuries to an aviator on 22 September, 1966 when small arms fragments struck a protector and were deflected. A recommendation was submitted to procure and issue the item. It was further recommended that fragment-proof glass be incorporated into the design to enable the aviator to view to the side and to his rear.

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b. A smoke generator, helicopter mounted, using fog oil, was tested by both the 11th and 145th Combat Aviation Battalions in October, 1966. Preliminary reports indicate that this is an extremely valuable item of equipment for use in screening LZ's and PZ's during the critical phases of a combat assault. Evaluation of the prototype model continues. This has proven particularly valuable in the increasing number of situations when proximity of engagements to friendly villages has prevented preparation of LZ's with gunfire. The Group now has two of these. A third type which dispenses smoke grenades from M-3 rocket launchers has proven useful in other than rice-paddy areas.

5. Airmobile Operations in Pacification Areas: Airmobile combat assaults are usually preceded by preparation of landing zones to protect the assault troops and aircraft from enemy fire. Artillery, fighter-bombers and armed helicopters strike throughout the landing zone and on avenues of approach and departure. Suppressive fire continues throughout the initial landing phase. In the conduct of pacification operations, surprise is substituted for landing zone preparation. Suppressive fire is not usually authorized nor may helicopter crews return fire unless a clearly identified hostile target is presented. Aircraft have been hit by enemy fire while in support of the pacification mission more often than on standard combat assaults which were preceded by preparatory fires. In the CU CHI - DUC HOA Area, the Viet Cong have been observed to leave cover in order to enable an unobstructed line of sight to the helicopters as soon as they realized that their fire was not being returned. A rough numerical comparison of hits per flying hour while engaged in combat assaults, pacification, and other combat support missions demonstrates that the pacification mission is the most hazardous. For all types of mission flown in III CTZ, average number of hits received in the 145th Combat Aviation Battalion was one per 562 hours flown. In support of pacification programs conducted by the 25th Infantry Division, one hit was received per 65 hours flown. Pacification in the Capital Military District produced one hit per 59 hours flown. A more detailed analysis is being prepared by 145th Combat Aviation Battalion.

6. Air Cavalry Task Force: To counter the roadside tax collection efforts of the Viet Cong and to conduct other small raid type operations, an air cavalry task force was organized within the 334th Aviation Company (AME) (A). The company was augmented by one platoon of UH-1D helicopters to provide a troop lift capability. The basic organization of the task force includes one armed platoon of five helicopters, a slick platoon, a command and control ship, and a psy-war ship with a loudspeaker system mounted. Based on current intelligence, the task force would attempt to disrupt known tax collection points. Attached to this force would be a TOE infantry platoon, an ALO, a forward observer, an interpreter and two national policemen to assist in identification of friendly civilians.

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During the period 1 - 15 September the task force was placed under the OPCON of the 25th U.S. Infantry Division to train with one infantry platoon from that division. The training went exceedingly well and on 15 September, the 25th Infantry Division employed the force on several operations. However, due to a priority for aircraft to meet more essential requirements and the Division's need for the infantry platoon to participate in normal ground operations, the organization was terminated at the end of September. Due to other more critical aircraft requirements and inability to acquire another infantry platoon, the force was not employed in October. The concept is still valid and as soon as the current aviator shortage in the slick platoon is alleviated and other more critical requirements for aircraft are reduced, another training program will commence with ground troops which are now available in an effort to employ the force as initially visualized.

7. Cargo Handling Equipment: The tremendous increase in the use of cargo aircraft to carry bulk cargo has not been matched by development, issue, and use of ground cargo-handling equipment which is compatible with either the aircraft capabilities or with the field environment. A few years ago, it was possible to hand load up to one ton of cargo into a U-1A Otter with little requirement for mechanical equipment. It is now of vital importance to provide mechanical methods of cargo handling with C-130, CV-2 and CH-47 aircraft. There are not enough cargo aircraft available to permit the aircraft to park while vast amounts of time and troop labor are consumed in loading and off-loading cargo by hand. Cargo conveyor transporters, rough terrain fork lifts, and light weight pallets must be provided to reduce the present waste of assets. Progress has been made in moving cargo suspended from the hook of CH-47 helicopters. In the past six months, external loading procedures have improved to such an extent that CH-47 helicopters of this command now average 50 tons of cargo per aircraft per day in comparison to less than 20 tons using antiquated internal loading procedures in use eight months ago. Ground units continue to arrive in Vietnam without cargo slings, straps, nets, and clevises. Units which have been in country for over a year still do not have enough of this airmobile loading equipment to sustain efficient airmobile operations. Equipment lists have been furnished to ground units but evidently command action is required to expedite delivery.

8. Border Violations: Several violations of Cambodian airspace were alleged during the reporting period. One allegation of Army Aircraft firing on a Cambodian outpost proved to be true. In order to prevent future border incidents by Army Aircraft, units have been directed to take special precautions if operations are planned near Cambodia. Before missions near the border, a detailed briefing must be presented to the participating aviators to review the location of the border. Large scale maps showing the border are issued. During the mission, a command and control aircraft equipped with radar transponder provides navigational control of the flight by flying at an altitude sufficient to maintain positive contact with a radar control agency. A request to mark the border by defoliation of a narrow strip was denied. Prevention of border violations is of great importance but the tactical necessity to prevent the area near the border from becoming a sanctuary is equally important.

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9. Centralized Versus Decentralized Control of Aviation: The ratio of aviation units in support of ground units continues to decrease as ground elements arrive in Vietnam at a faster rate than supporting aviation. Daily allocation of all II FFV aviation units to major ground units has resulted in over-commitment of the Group's available aircraft and crews. The aircraft have been consistently flown well beyond, in some cases double, the programmed flying hours resulting in an inability of the spare parts supply and maintenance system to maintain pace. Air-crews have also flown in some cases as many as twice the hours set by aviation medical and safety experts as the fatigue danger level. When specific aviation units have been allocated to specific ground units, an inequity of flying hours has developed between airmobile companies, some of which have flown twice as many hours as like companies in a given month. The result is a drop in combat effectiveness of the over-committed units due to excessive equipment deadlined for parts, rapid rotation into PE, deferred maintenance, and crew fatigue. Allocation of a particular airmobile company to a particular ground unit is a goal which should not be attempted until enough aviation assets are available to match the support requirements of all ground elements. Centralized control and rationing of our limited aviation assets by the two Field Forces appears to be necessary to provide efficient support to all users without excessive over-commitment and resulting loss of effectiveness of Army aviation.

H. (U) TRAINING:

1. Aerial Gunnery: During the period 15 through 22 September 1966, this headquarters conducted an armed helicopter gunnery training program in the form of Company and Battalion training, followed by a Group competition. The target was a 55 gallon barrel dropped into the DONG NAI river, an intentionally small point target for helicopter weapons. Excellence was judged against time to sink the target. As a result of the competition, many concepts and pet theories were shown to be worthless. Enough valid information and lessons were derived to produce a separate paper which was circulated to all aviation units (ANNEX B).

2. Instrument Flight Training: Although the requirement to maintain a current instrument ticket has been waived in Vietnam, the annual South-West Monsoon, night missions, and flight out of dusty areas has demonstrated a definite need for the aviator to gain and maintain the ability to fly the aircraft by reference to instruments alone. On 26 October 1966, this headquarters established a requirement for each aviator to practice instrument flying with the goal established of two hours per month to be spent in actual or simulated instrument flight.

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3. Airmobility Training, CH-47A: Inefficiency in utilizing the lift capabilities of the CH-47A "Chinook" helicopter has at times degraded tactical operations. Our units have learned a great deal about preparation of loads for external carry. Rigging procedures have been refined and new methods developed to reduce wasteful ground time due to delays in loading. A mobile training team was established in July, 1966 to instruct ground troops in loading and rigging procedures for the CH-47A helicopter. This team regularly visits all light artillery units, brigade headquarters, and other units on request to present a four hour course of instruction. In addition, a handbook, "Guide to Chinook Operations", was locally reproduced. Suggested items of airmobile equipment are listed according to type, Federal Stock Number, and recommended quantity per type tactical unit. Lesson plans and color slides have been prepared and forwarded to United States Army Aviation School and United States Artillery and Missile School. The results of instructional effort in this reporting period are truly impressive. Of particular note is the sharp reduction in dropped CH-47 loads. Use of the mobile training team remains a continuous requirement due to arrival in Vietnam of new units and the rotation of individuals.

4. Airmobility Training UH-1: At the request of the Commanding General, 1st Infantry Division, airmobility training is being conducted by the 11th Combat Aviation Battalion for units of the 1st Inf Div. A continuous requirement exists for this training and the program will be expanded to include units newly arriving in Vietnam.

5. Maintenance Training: Maintenance training was accomplished by on the job training within the units with special training for selected individuals conducted by the 34th Transportation Group (AMAS) at VUNG TAU. Programs presented at VUNG TAU included courses varying in length from one week to two weeks under the Aircraft Maintenance Technical Assistance Program. Instruction was given on the UH-1B (540 rotor head), UH-1D helicopter, CH-47A helicopter, the T-53 and T-55 turbine engine. Additional quotas for training have been requested and the program is continuing.

7. Pathfinder Trainings: The use of well-trained Pathfinders has been vital to the success of airmobile operations. Pathfinders have been used not only to guide landing aircraft and to control landing zones, but to assist the ground commander in organizing his people for air transport. A most important use of Pathfinders has been to assist supported units in rigging of loads to be carried externally by CH-47 helicopters. Pathfinder teams are employed in pick-up zones as well as landing zones. In order to provide additional Pathfinders and to assure standardized techniques, thirty airborne-qualified volunteers received a two week course of instruction presented by the 11th Combat Aviation Battalion and the 145th Combat Aviation Battalion. After a ninety day period of demonstrated proficiency on the job, those volunteers found fully qualified will be awarded the Pathfinder Badge. To retain their rating in the ZI, they must complete jump training on their return.

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7: Assigned Training Tasks:

a. US Army and US Air Force O-1 Aviator Cross Training.

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The program to train USAF pilots in VR and artillery adjustment missions normally flown by USA aviators continues. Further, USA aviators are being trained in Forward Air Control procedures. Forty-two USA aviators and twelve USAF pilots were trained.

b. Training of VNAF Pilots. Four VNAF aviators were

attached for training on 21 August 1966. Training program will be completed on 7 November 1966. Two aviators were transitioned into the UH-1 through a formal course conducted by the 120th Aviation Company. Two aviators were given local transition training by the unit to which they were assigned. After the initial UH-1 check out phase of training, the VNAF aviators were assigned to an operational Assault Helicopter Company for a combat training program, where they have performed satisfactorily. An evaluation of this VNAF training program reflects that a considerable amount of time is consumed in the initial UH-1 check-out phase of training, thus detracting from the operational mission capability of the unit with the training responsibility. The language barrier has also been a significant handicap to the efficiency of the program. Due to the time required to train the VNAF aviators, and the short time thereafter that they stay with us, they are returned to their parent unit prior to becoming a real asset to the training unit. Since the VNAF does not have operational UH-1 aircraft, the aviator's newly-acquired skill in the UH-1 will not be utilized after their return. Problems encountered in funds, quarters, and off-duty-time have added minor additional burdens to the training unit. Since the pilots are reassigned immediately to VNAF CH-34's, their proficiency in the UH-1 aircraft cannot be maintained. The short term gains for our aviation units thus appear small. The long term value of the program in terms of the relations of the U.S. and RVN, on the other hand, may be sufficient to continue to justify the program. We are not able to judge that at this level.

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SECTION I SIGNIFICANT UNIT ACTIVITIES

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I. (C) LOGISTICS:

1. Summary of S-4 activities:

a. During the reporting period, S-4 activities have been concentrated on unit construction projects (contract, self-help), initiating follow-up supply actions on TOE equipment shortages, improvement in unit maintenance and supply operations, and food service management.

b. Significant improvements in HHC, 12th Combat Aviation Group area included sodding of the area around the headquarters, transplanting trees, establishment of gravel walks, engineer construction of a shower building and a burn-out latrine, construction of the first three 20 x 60 foot hutments for enlisted men's quarters, partial construction of a conference room, establishment of a dispensary facility, sandbagging the communications building, construction of a personnel shelter and construction of generator shelters. Improvements were made in the unit mess hall and within the headquarters building. The engineers started horizontal work to provide suitable aircraft maintenance areas for the Group and the II FFV Flight Detachments.

c. Staff assistance visits were conducted in all areas of responsibility. The visits were concentrated in the areas of aircraft maintenance and supply and food service. Visits to improve ammunition and POL handling procedures were initiated. Maintenance and parts support for aircraft armament subsystems improved appreciably.

d. Since mid-August 1966, food service staff assistance visits have been made to company and Officers Messes in the 12th Combat Aviation Group. Significant problem areas encountered were drainage, logistical, and R and U Support. Units were advised on possible solutions for existing drainage problems. Ditches were dug and crushed rock used to fill in low spots which improved drainage problems. A shortage of generators for field range, M1937 was noted; units were modifying worn-out generators by cutting and repacking. Depot personnel were contacted and enough generators were procured to correct this problem. Visits revealed that much equipment on hand in the messes was not installed although work requests had been submitted. R and U supervisory personnel were contacted and as a result of aggressive follow-up, the majority of outstanding R and U job requests were completed.

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2. SUPPLY:

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a. Repair Parts: Improvement in the condition of unit PLL's was noted during staff assistance visits to units of the command. Emphasis was placed on developing PLL for each type equipment on hand, submitting requests for repair parts, maintaining correct demand data, and furnishing of PLL listing to the supporting direct support unit.

b. Aircraft Technical Supply:

(1) PLL/ASL's maintained their level at 80% fill without appreciable change. The exception was Aircraft Armament PLL's which began a positive fill in September, with present fill of Armament PLL reaching 56%.

(2) Armament support from 330th Transportation Company (GS) improved remarkably during this quarter. Pylons of the XM-16 sub-systems were a problem area, requiring as much as 14 days for repair. This time has been reduced to one day direct exchange service.

(3) The aircraft EDP rate improved greatly, from 12.5% for August to 8% for September.

c. Aircraft: Augmentation UH-1D aircraft were received by all Airmobile Companies (Light); these units currently have an average of 21 UH-1D aircraft assigned.

d. CH-47 availability improved from 39.3% the previous quarter to 70% in August and 72% in September. This marked improvement was due to a significant EDP decline and the implementation of the operational and maintenance management policy of committing 6 aircraft daily per unit. This has reduced EDM time and allowed time for completion of the deferred maintenance backlog. This type of control provides a consistently higher number of mission ready aircraft to support tactical operations.

e. UH-1B (540) continue to be a supply problem. As of mid-October, 23 aircraft were EDP for 174 items. The majority of those repair parts were for the main rotor system.

f. A problem developed in the allocation and automatic issue of aircraft armament system. This headquarters was notified that two M-5 subsystems were allocated to subordinate units. These systems were shipped from the 58th Transportation Battalion (AMTC) marked for the units designated. They were subsequently delivered to the 611th Transportation Company at VUNG TAU. The 611th Transportation Company was unaware of the USARV unit allocation and issued the subsystems against other unit due-out requisitions. This resulted in review of written directives and new instructions being published by the 34th General Support Group.

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g. The initial XM-21, 7.62mm mini-gun systems arrived in country in late October. Forty-three systems are due to arrive by January with the possibility of 17 additional systems. Support packages of repair parts are in country and are at 87% fill. A 40 hour course of instruction will be set up at VUNG TAU to train unit armorers. Technical assistance is available through the 34th General Support Group.

h. Group submitted a request on 23 August 1966 for fifteen additional Heliborne Illumination Systems (HIS) to be produced in-country. The basis of the request for 12th Combat Aviation Group was to provide one system per armed platoon of each airmobile company. This will enable each company to fly FIREFLY missions. The HIS are being manufactured by 34th General Support Group. It is expected that these additional lighting assets will be completed in December 1966.

i. On 1 August 1966, a request for ten individual weapon Starlight Scopes (one per airmobile company) and four Crew Served Weapons Scopes (two per Combat Aviation Battalion) was re-initiated. This headquarters has been advised that the night vision devices will be provided from sources within the III CTZ, and from allocations expected in December. One 16" scope has been received.

j. The following table reflects expenditure of selected items of ammunition by units of the 12th Combat Aviation Group for the periods indicated:

		2.75" RKTS, HE	7.62MM CTG	40MM CTG HE
1. August	1966	7,790	2,300,200	19,650
2. September	1966	7,720	1,630,400	16,590
3. October	1966	<u>7,690</u>	<u>1,300,500</u>	<u>8,060</u>
	TOTALS	23,200	5,231,100	44,300

(Note: Period 1:21 Jul - 20 Aug Period 2:21 Aug - 20 Sep Period 3:21 Sep - 20 Oct). The expenditure rates for 2.75" RKTS, HE (all types) were well below the ASR's for the periods indicated.

	2.75" RKTS, HE <u>EXPENDITURE RATE</u>	<u>AVAILABILITY SUPPLY RATE</u>
August	0.19	0.20
September	0.18	0.22
October	0.14	0.25

This is attributed to continued emphasis on the part of commanders to conserve as directed, but not ration 2.75" rockets. The conservation did not effect accomplishment of unit missions.

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k. Generator Power Equipment: Two generators, 100 kW were obtained to provide electric power for the 116th Aviation Company Cantonment area at CU CHI. These generators will also supply primary power to the aircraft maintenance area.

l. Polaroid Cameras: Field experience in airmobile operations indicated a need for the capability to rapid obtain spot photo coverage of landing zones and other operational areas. Polaroid cameras were requested by each aviation company. Three units obtained the requested cameras. Continued supply action is being taken to obtain this item of equipment for each unit.

m. Miniport Systems: Five new Miniport Systems were received during September and one each was positioned at HAN TAN, SONG BE, HON QUAN, and two at TAY NINH. Training of operating personnel was accomplished. This additional POL pumping equipment considerably increased the on-site capability for refueling at those prestock points. Additional Miniport Systems and portable POL pumps for the 12th Combat Aviation Group are projected inbound.

n. One Heliborne Illumination System was employed in the 334th Aviation Company during the quarter. No significant repair parts problems developed. However, non-standard repair parts had to be obtained from Air Vietnam by local contract procurement. A PLL was established by 34th General Support Group for the HIS, and local procurement of non-FSN parts was initiated with Air Vietnam.

o. Airfield Lighting: This headquarters received several complaints from units expressing dissatisfaction with airfield lighting. A survey of airfields in the III Corps Tactical Zone was initiated. The results indicated a definite need for 19 runway lighting sets. This requirement was forwarded to the 1st Aviation Brigade for action.

p. Prestock Operations: A proposal has been made that prestock points at TAY NINH and PHU LOI be operated by the 196th Infantry Brigade and 1st Infantry Division respectively. This would eliminate duplicate installations adjacent to each other. Personnel and equipment for three POL handling teams have been requested to give 12th Combat Aviation Group the capability of operating existing prestock points for aviation Class III A and Class V supplies in III CTZ.

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q. Aerial Delivery of CS Agent: Design, test, and evaluation of suitable CS Agent launching devices was completed in September. It was determined that the adaptor for the M-3 rocket launcher was the most effective means for dispersing CS Agent by UH-1 helicopters for missions envisioned for units of this command. Tests were run on CS in drums and on CS grenade launching devices. The E 158/159 CS cluster was not tested or used at the time. Subsequent tests showed it to be very effective. At the present time the 12th Combat Aviation Group has the capability to employ one M-3 system filled with CS grenades. Additional grenade launching adaptor kits will be obtained from ACTIV.

r. Inbound POL Pumping Equipment: An allocation of 13 40 GPM KEMCO pumps, 6 100 KEMCO pumps to each AML Aviation Company, and 16 100 GPM KEMCO pumps to each AMM Aviation Company has been given by USARV. Although the in-country time of availability is unknown, this equipment, when received will considerably increase the refueling capabilities of our aviation companies. Some of this additional POL pumping equipment will be placed at remaining pre-stock points to increase the rapid refueling capability.

s. Radio Equipment: During the period, HQ, USARV authorized each airmobile aviation unit to increase the current authorized allowance of Radio, AN/PRC 25, to five. Airmobile units submitted requisitions through command channels. Issues are being made on a priority basis by HQ, USARV at the rate of approximately twenty per month.

t. USARV Form 47: A total of 98 requests for equipment in excess of authorized allowance have been processed during period 1 August - 31 October 1966. Eleven requests have been disapproved by higher headquarters, 30 requests have been approved, 50 requests are pending action by higher headquarters. Most common items requested are polaroid cameras, generators, radios, weapons, and tentage.

u. Equipment Surveys: During the period, numerous equipment surveys were directed by higher headquarters. Equipment surveys completed were requirements for safety glass (motor vehicles), tentage, individual clothing and equipment (TL 50-901, AR 700-8400-1), flight safety clothing bedding equipment, major items of engineer equipment, and aircraft armament subsystems.

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3. (U) CONSTRUCTION:

a. Aircraft Parking Areas: Improvements were made during the quarter of helicopter parking areas at LONG BINH, BIEN HOA, and PHU LOI. The areas were covered with penepime dust suppressing compound. Steel matting was installed in the 334th Aviation Company parking ramp at BIEN HOA. Steel matting was obtained and installed in the aircraft maintenance area of 116th Aviation Company at CU CHI. Construction is now in progress at HQ, 12th Combat Aviation Group, LONG BINH, for an aircraft maintenance area for the flight detachment. All units completed construction of aircraft revetments during the quarter for passive defense of aircraft against enemy attack. USAF bomb containers and sandbags were the materials used. "L" shaped revetments (on the front and one side for helicopters) were adopted as standard.

b. Unit Billets: The 116th Aviation Company prepared for movement from PHU LOI to CU CHI. Approximately forty tropical hutments were constructed for troop billets in CU CHI cantonment area. The 222nd Combat Support Aviation Battalion completed eight of eleven one-story hutments and has approval to construct three two-story tropical hutments at VUNG TAU. The 145th Combat Aviation Battalion is presently constructing six two-story tropical barracks at BIEN HOA to billet two Aviation Companies which are directed to vacate VNAF buildings. This self-help project became necessary when contract construction of troop barracks was stopped due to reduced FY 66 funds. Additional roads and drainage ditches were completed in the cantonment area of the 11th Combat Aviation Battalion at PHU LOI. HHC, 12th Combat Aviation Group completed three one-story hutments at LONG BINH. Additional hutments and a recreation building are planned for self-help construction as materials are received.

c. Helicopter Parking and Maintenance Facilities: Contract construction began during the period for a fifty helicopter parking ramp and aircraft maintenance facilities for two Aviation Companies at BIEN HOA (Project 521). Approximately 50% of the parking ramp has been completed.

d. Construction Requirements: Advanced planning was begun for the stationing and minimum essential construction requirements for aviation units scheduled for arrival. This Headquarters developed and published schematic minimum essential requirements for an airmobile light and airmobile medium helicopter company. These schematics have been and will be of assistance to new unit base developers. Arriving units will probably be billeted in tents and be issued materials for tent frames and floors to be constructed by units on arrival. Coordination with II FFV and Installation Planning Boards for detailed site location and layout of engineering work has begun.

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4. (U) AIRCRAFT MAINTENANCE:

a. Supply and Maintenance Conference was held at SAIGON on 1 October 1966. The purpose of this conference was to discuss and update aircraft supply procedures. Items of particular interest were the forecasting of time before overhaul (TBO) components, avionics retrofit program, and the Aircraft Maintenance Technical Assistance Program (AMTAP). The forecasting of TBO items was discussed in its relation to the EDP rate. Some units had not forecast these items and were relying upon EDP to produce the required parts. As a result, the aircraft availability dropped while the EDP rate increased for those units (It is interesting to note that during this period the average EDP rate for the 12th Combat Aviation Group dropped from 12.5% to 8%). The Avionics Retrofit will begin in October. This will be performed by contractor personnel and will require from 9-12 months for completion. This will be on-site work. Kits will be shipped from CONUS on 15 October. All Army aircraft except CV-2B's will be involved in this program. Major items of equipment will be, replacement of AN/ARC-44 radios with AN/ARC-54, replacement of AN/ARC-55 with AN/ARC-51 radios plus installation of AN/ARC-102, C-1611, AS 1922 and KY 28 installation provisions. The Aircraft Maintenance Technical Assistance Program was discussed. Classes being presented on the UH-1D, UH-1B (540), CH-47, and T-53 engine are excellent. All units desired an increase in quotas.

b. EDP Rates by type aircraft are shown below for the months of July through September. The UH-1B (540) continues to show a high EDP rate due to excessive wear rate of teflon components and insufficient quantities of repair parts for the main rotor system.

AIRCRAFT EDP RATE (1 JULY - 30 SEPT)

<u>TYPE A/C</u>	<u>JULY %</u>	<u>AUGUST %</u>	<u>SEPTEMBER %</u>
O1-F	5.1%	7.6%	4.2%
U1-A	3.4	0.0	0.0
U6-A	27.5	0.0	0.0
OV-1	5.5	3.4	12.8
CV-2B	4.4	3.6	7.6
OH-13's	18.1	---	---
UH-1B	6.1	8.4	7.0
UH-1B (540)	18.0	24.8	22.1
UH-1D	11.1	13.3	12.1
CH-47	<u>32.5</u>	<u>20.9</u>	<u>15.9</u>
GROUP AVERAGE	10.6%	12.5%	8.0%

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c. Aircraft Parts Delivery (FREE LOADER): Parts delivery to LAI KHE and PHUOC VINH by CV-2 has been improved and is now being accomplished in a highly satisfactory manner. There have been no major difficulties; some minor adjustments of schedule were necessary. This action has reduced the delivery time of BDP parts to these two isolated companies.

d. Modernization: Eighty-three aircraft were added to the fleet to replace combat losses, augment present strength, and modernize. Of these aircraft 54 were UH-1D's, 18 were UH-1B (540's), 3 were standard UH-1B's and 8 were CH-47's.

e. Staff assistance visits were made to all units during the quarter. These visits revealed a large number of aircraft armament systems on work order for excessive periods of time. We brought this problem to the attention of the 765th Transportation Battalion which took immediate steps to correct the situation. At the end of the quarter there were no outstanding armament work orders for the entire 12th Combat Aviation Group. The 73rd Aviation Company experienced a shortage of 20 aircraft mechanics. At the end of the quarter they had received 14 replacements.

f. Component repair was a subject of special interest. Several units have developed a unit-level consolidated component repair shop. This capability enabled these units to develop quick change components and reduce the maintenance down time. Visits to these shops by other units has been encouraged, however, capability is dependent on qualifications of individual mechanics, and technicians.

g. Aircraft recovery operations have been accomplished by the 56th Transportation Company (DS) ("Good Nature"). We have initiated action to have the 56th train a recovery team from each airmobile company. The objective is to standardize methods and equipment to meet the criteria established by the recovery unit. Emphasis will be placed on developing lightweight equipment for emergency evacuation.

h. Vehicle maintenance operations of forty-six (46) units were inspected during the quarter ending 31 October 1966. These assistance visits were to improve repair parts procedures, maintenance records administration, and to resolve problem areas. Deficiencies and corrective action were discussed in detail with personnel immediately concerned. Steady improvement is being made in each unit.

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J. (C) SIGNAL:

1. Command Post Communications: During the reporting period, major efforts were devoted to installing signal facilities on a more permanent basis in the new headquarters area. Command communications, as in the previous quarter, progressed favorably. Effective FM radio communications to the three assigned battalion headquarters exist and have been used up to 100 miles, air to ground, operating to include phone patch capabilities. Single-sideband radio communications are provided to the 1st Aviation Brigade and the three assigned battalions, again to include phone patch capabilities. The addition of the phone patch capability has supplemented the overloaded wire circuits and facilitated command and staff coordination. The addition of an FM radio and power supply to the S-2 has permitted the establishment of a spot report net which enables O-1 aircraft to transmit the location of possible Viet Cong tax collection points immediately to S-2, from anywhere in the III CTZ. Enemy activity observed by OV-1 aircraft can also be transmitted directly to S-2. In addition to the more extensive radio capability, the multipoint sole-user teletype network channels became more stabilized during the quarter, to permit more extensive use for the large amount of administrative and operational traffic generated between the major headquarters of the Command.

2. Pathfinder Communications: Action was initiated to augment the portable AN/PRC-71 UHF radios given to the organic Pathfinder detachments with a 1750-channel portable AN/PRC-41 radio with battery charger. Further action was initiated to authorize each UH-1 and CH-47 company a PRC-41 radio with battery charger to establish forward airfield control when Pathfinders are not available. This request was approved by USARV and the requisitions are being submitted. This must be closely monitored during the next quarter to insure the expeditious issue of the equipment.

3. Navigational Aids: Noted during the quarter was a need for navigational aids at airfields being occupied by elements of this Command. An investigation revealed that units located at THUOC VINH, LAI KHE, and CU CHI had no navigational aids to facilitate their departure and return during periods of adverse weather. Operation of two portable TRIDEA beacons was directed at THUOC VINH and LAI KHE, while the 25th Infantry Division established an AN/GRN-6 beacon at CU CHI. Late in the quarter, the two TRIDEA beacons were replaced by an AN/GRN-6. Another TRIDEA beacon was placed in operation at TAY NINH West to facilitate operations of the 196th Light Infantry Brigade. The TRIDEA beacons, although limited to short range because of a power output of only 10 watts, proved to be extremely valuable for tracking outbound and for position fixing when within five nautical miles of the transmitter. Action has been initiated to request that a TRIDEA beacon with an amplifier to boost the power output to 100 watts, be issued to each UH-1 and CH-47 company for use during tactical operations at landing and pick-up zones. This request will be closely monitored during the next quarter. Reliability of these beacons to date has not been good probably because of less than ideal terrain sites and adverse atmospheric conditions.

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4. Wiro Communications: The arrival of numerous units in the LONG BINH complex has placed an increased load on the already-overloaded telephone capability at the II FFV switchboard. Three telephone trunks from the Group switchboard to the LONG BINH switchboard have been requested. The addition of these trunks will provide the headquarters with adequate telephone service, and the request will be closely monitored during the next quarter.

5. Aircraft Command Consoles: To alleviate a shortage of ASC-6 command consoles within the 11th Combat Aviation Battalion, the Battalion Signal Officer installed long wire antennas on the skids of all UH-1B helicopter within the battalion so that PRC-25 radios could be easily attached and operated by personnel in the cabin of the aircraft. Exceptional voice range in excess of 30 miles at an altitude of 2000 feet were experienced with this modification. Because the results were so exceptional, several of these modifications are being installed on aircraft of the 145th Combat Aviation Battalion as well as on two of the Group Hqs. helicopters.

6. Alternate Command Post: During this reporting period, the conversion of the S-2/Signal building into the alternate command post was completed. The building was sandbagged to include the construction of three personnel bunkers. An additional FM antenna was erected and a generator shed was constructed to house the emergency generators. A command console was constructed for the command net radios and power supplies to facilitate ease of operation in the various radio nets.

7. Staff Visits: During the quarter, the Signal section visited the nine separate and two organic avionics detachments in support of Group aircraft. As a result of these visits, numerous items of test equipment were transferred between detachments resulting in each detachment now possessing the proper equipment for the type aircraft it supports. An awareness of avionics problems and how vitally they affect the counterinsurgency effort was brought to the attention of commanders, which resulted in a better mutual understanding of mission and support requirements. Morale was brought to a new high level in the avionics detachments since they now feel they are part of the "team".

8. Projects: Three major projects listed below, initiated by this headquarters in 1965, required and will continue to require continuous monitoring of their progress.

a. The command communications equipment to supplement the organic capability of non-divisional aviation units, which was approved by Department of the Army, is still scheduled to arrive by 1 December 1966. These packages of equipment will be issued to group and battalion headquarters and to each UH-1 company. New UH-1 companies and battalion headquarters scheduled for assignment to this command will be issued this equipment prior to their departure from CONUS.

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b. The Avionics retrofit program was scheduled to begin on 15 October 1966. The first retrofit team arrived in-country and was based at PHU LOI, the site selected to commence the program. The host units for the team are the 11th Combat Aviation Battalion, the 1st Infantry Division Aviation Battalion, and the 23 Artillery Group. Upon the arrival of the retrofit kits, work began and the retrofit of the first UH-1D from the 11th Combat Aviation Battalion was completed on 1 November 1966. On that day, a conference was held at the 145th Combat Aviation Battalion headquarters to discuss the retrofit program for units located in the BIEN HOA area. Representatives from AVCOM, AMMC, USARV, this headquarters, and the 145th were present and plans were made to quarter and mess the retrofit team scheduled to arrive on 30 November 1966. Throughout the last quarter command-wide efforts were devoted to the precise organization of this important retrofit program. A gradual relief from the congested FM bands will be realized as this program progresses. It is scheduled to be completed by 1 November 1967.

c. A conversion program to exchange all old series FM ground radios for the new VRC-12 FM family commenced late in the quarter with the arrival of the new radios at the 1st Logistical Command. All units of this command are programmed to receive and install their new radios by 1 December 1966.

9. Message Traffic: Marked results in progress and accomplishments of the command radio and teletype nets were realized during the past quarter. Radio traffic, which averaged 25 messages per day during the previous quarter, averaged more than 30 per day this quarter. The volume of teletype traffic, which has increased daily, averaged 115 messages sent and 150 received per month during the previous quarter.

10. Problems Encountered:

a. The most prevalent problem was the lack of FM frequencies. This problem will only see relief when all aircraft have undergone the retrofit program and the units have converted to the new series of ground radios. In the III CTZ there are over 375 FM radio nets which must utilize 72 FM frequencies.

b. Another problem encountered was a lack of sufficient VHF crystals to permit airmobile units to utilize VHF air-to-air frequencies for communications during the conduct of operations. The crystals have been requested and continuous monitoring of these requests must be conducted to insure the proper quantity is made available to each airmobile unit.

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K. (U) SAFETY:

1. Summary of Activities: During the reporting period the 12th Combat Aviation Group Aviation Safety Section recorded, reviewed and analyzed:

22 Aircraft Accidents

6 Combat Losses

37 Incidents

24 Forced Landings

48 Precautionary Landings

4 Other Type Mishaps

There was an increase in reportable mishaps over the previous period. Incidents increased almost 100%. Four operational hazard reports were investigated, down from 13 the previous quarter. This decrease is attributed to command emphasis on separation of rotary and fixed wing traffic at forward airfields and staging areas.

2. Significant Events:

a. In August a UH-1B (Armed/540) accident resulted in four fatalities. After an extensive and extremely thorough investigation by the accident board assisted by Lycoming and Bell technical representatives, the cause of this accident was determined to be installation of non-standard bolts in the external stores attaching points and subsequent inflight loss of the left gun pylon. The nonstandard bolts were probably installed when the gun systems were put on the aircraft here in country. This probably resulted from shifting pylons due to shortage of them previously mentioned. Inspection revealed other non-standard bolts in use on gun systems. Prompt corrective action prevented any further occurrences of this problem.

b. On 13 September 1966 during a night combat assault mission, a flight of seven aircraft encountered extremely bad weather and were forced to divert from their route of flight. One aircraft, its fuel presumably gone, was seen descending into the trees, apparently in a controlled maneuver. Neither the aircraft nor the four crew members have been found to date. Formal search and rescue efforts were terminated after four days.

c. Anti-torque failure continues to be a major problem. Failures from other than pilot-induced causes occur about three times a month and do not fit into any pattern. Most failures are hard to pinpoint because crash impact causes misleading damage or destroys the parts in question. Improved maintenance procedures have stopped tail rotor blade and hub failures, but gear boxes and hanger bearings continue to fail for reasons unknown. Laboratory analysis is inconclusive in many cases.

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d. The Safety Section participated in field testing of the electroluminescent tapelight lighting system for airfields and heliports. In addition the section co-ordinated the "Penetrating" of BIEN HOA helicopter parking areas. Planning for new aviation facilities at CU CHI, LAI KHE, and PHU LOI was monitored. All heliports and air strips in the LONG BINH area were surveyed for future use when traffic density will require a central control agency to regulate traffic patterns and airspace utilization.

L. (U) MEDICAL:

1. Summary of Medical Activity:

a. The Consolidated Battalion Dispensary of the 145th Combat Aviation Battalion at BIEN HOA Air Base had one of its proposed two buildings completed in October of 1966 and is now operational. USAFV approval has been obtained for construction of a similar facility in the 11th Combat Aviation Battalion at PHU LOI and work should begin soon on this project. The 222nd Combat Support Aviation Battalion plans to have its Consolidated Battalion Dispensary operational before the end of the next quarter. Also, a small dispensary was established in the Group Surgeon's office to provide first echelon medical care for Group Headquarters personnel.

b. Because of the large number of flying hours by aviators within the 12th Combat Aviation Group, a comprehensive study of fatigue as it applies in the combat environment of RVN was launched in September, 1966 by the Group Surgeon and is being carried out by Flight Surgeons of subordinate units at this time.

c. A system for follow-up at Group level of injuries as a result of hostile action (IRHA) was established in October 1966 after coordination with all hospitals supporting the 12th Combat Aviation Group units and the unit Flight Surgeons. This will provide the Group Commander with current information regarding IRHA's and feedback to subordinate units will provide them information regarding prognosis and probable disposition. Possible personnel actions can be planned earlier.

d. During this quarter, the Group Surgeon began submitting articles on aeromedical topics for inclusion in each monthly Aviation Safety Bulletin.

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2. MEDCAP Program: 12th Combat Aviation Group continues an active and expanding MEDCAP program with 16 total projects throughout the Group ranging from actual treatment of disease to projects designed to improve both quality of health care rendered and sanitation as well as training of local RVN national medical workers in modern techniques. One case of particular interest involved obtaining cataract surgery for a blind Vietnamese. This was coordinated by the 222nd Combat Support Aviation Battalion Surgeon and the patient received the proper surgical care at the 1st ROK Surgical Hospital at VUNG TAU, RVN. During the course of carrying out his MEDCAP duties, one of the 12th Combat Aviation Group Flight Surgeons received a minor gun shot wound of the thigh from VC sniper fire. It is the opinion throughout the Group that MEDCAP activities serve to establish and cement trust and friendship between American and Vietnamese allies.

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SECTION II

COMMANDERS OBSERVATIONS AND RECOMMENDATIONS

PART I OBSERVATIONS (LESSONS LEARNED)

A. (U) PERSONNEL: None

B. (U) OPERATIONS:

1. Safeguarding Aircraft From Artillery Fire

a. ITEM: Artillery Warning Control Centers.

b. DISCUSSION: A previously used air corridor system to protect aircraft from artillery fire proved unworkable and a new system was instituted using warning centers. All artillery information is available over unclassified frequencies to enable aircraft to avoid artillery trajectories.

c. OBSERVATION: The system of warning centers better protects aircraft against inadvertant flight through artillery trajectories.

2. Communications

a. ITEM: Notices to Airmen (NOTAMS).

b. DISCUSSION: Information significant to safety of flight and efficient air operations must be made known to all interested agencies as soon as it develops.

c. OBSERVATION: Charging one agency with the responsibility to collect and disseminate NOTAMS is an effective method to insure that all agencies are informed.

3. Control of Army Aviation

a. ITEM: Centralized Control of Aviation Assets.

b. DISCUSSION: To provide aviation support to the increasing number of users requires that the most efficient method of aircraft control and utilization be effected. The programmed rationale of light and medium transport helicopter units in support of major ground combat units will not be fulfilled in the near future, in fact the present ratio of aviation units in support of major ground combat units will decrease in the immediate future. The primary mission will still be the fulfillment of the daily tactical requirements of these ground units. Centralized control, with a programmed allocation on a daily basis will insure greater flexibility and responsiveness of the limited aviation assets.

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c. OBSERVATION: Until the rationale of aviation units in support of major ground combat units is fulfilled, or at least until the density of aviation assets is sufficient to meet the daily tactical requirements of the ground commanders, it will be necessary for the control of aviation assets to remain centralized.

4. Airmobile Operation in Pacification Areas

a. ITEM: Aircraft receive more hits on pacification missions.

b. DISCUSSION: Units participating in pacification missions attribute the high number of aircraft hits to the following conditions:

- (1) Preparatory fires are not usually used.
- (2) Suppressive fires are not usually authorized.
- (3) Fire cannot be returned unless a clearly defined target is presented.
- (4) Smoke reduces exposure of aircraft in these cases.

c. OBSERVATION: Commanders must understand the increased degree of risk involved when restrictions on firing are imposed while on pacification missions.

5. Air-Delivered Smoke Grenades:

a. ITEM: Delivery of Smoke Grenades using the XM-3 Dispenser.

b. DISCUSSION: Smoke grenades have been dispensed to screen landing zones and pick-up zones from enemy observation. Although the system has been very effective when the grenades are dropped onto solid ground, the present grenade is unsatisfactory when deployed over rice paddies and water bodies.

c. OBSERVATION: A requirement exists for development and immediate issue of a smoke grenade which will operate when dropped into water.

6. Distress Signals

a. ITEM: Light Marker Distress S-DU-5/E.

b. DISCUSSION: The Light Marker, Distress is a survival item issued to aviators. It is pocket-sized and emits flashes of light which can be seen day and night. An unfortunate short-coming is that the flashes of light emitted resemble muzzle flash from small arms weapons. By painting the clear lens-cover with green "Magic Marker" type paint, the light cannot be confused with muzzle flash and no significant loss of light intensity is effected.

c. OBSERVATION: Painting the clear lens cover of the Light Marker, Distress prevents the mistaking of its flashing light with muzzle flash.

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C. (U) TRAINING AND ORGANIZATION

1. Aerial Gunnery

a. ITEM: Armed helicopters in attack of point targets.

b. DISCUSSION: Armed helicopter gunnery refresher training and an inter-company competition was conducted during this quarter using a floating 55 gallon barrel as a point target. Attempts to sink the barrel in a minimum of time graphically illustrated to the competing crews common errors in boresighting, target lead, weapon convergence, and weapons safety. The pattern of bullet and rocket strikes were readily apparent against a water background. Lessons learned included firing of rockets early in the run (1000 meters) to leave a stable mount for close in firing of machine guns (600 meters or less), converging machine guns at 400 meters for maximum bullet density at optimum range, maintaining a relatively high airspeed for platform stability, and accuracy in boresighting by use of the M-5 boresighting device. Over a period of days, crew proficiency and techniques improved resulting in a five-fold decrease in average time to sink the floating barrel.

c. OBSERVATION: Training of armed helicopter crews by use of a water-borne point target provides excellent, graphic instruction and refresher training in proper gunnery techniques.

2. Instrument Flight Training

a. ITEM: Aviator proficiency in instrument flying.

b. DISCUSSION: On many occasions, the combat support mission could not be accomplished by visual reference to the terrain to maintain flight due to monsoon clouds, rain, darkness, or extreme dust.

c. OBSERVATION: Aviators must be required to practice flight under actual or simulated instrument (Hood) conditions in order to accomplish the combat mission.

3. Army Aviation Unit Deployment Plan

a. ITEM: Army Aviation Unit Deployment Plan.

b. DISCUSSION: Information briefings on the Army Aviation Unit Deployment Plan was presented to the commanders and staffs of the major US and Free World ground forces and to the Deputy Senior Advisor, III ARVN Corps. The presentation included the deployment schedule, stationing plan, and the colocation plan for incoming aviation units. Of primary concern to this command was the acquisition of real estate and planning the requirements for horizontal and vertical construction. The normal lead time for the acquisition of real estate is three to six months. Headquarters, MACV, has established guide lines for engineer support priorities, which if complied with, will satisfy the requirements of these incoming aviation units.

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c. OBSERVATION: It is essential that the installation commanders and area coordinator acquire real estate and plan the engineer support requirements to insure that these incoming aviation units become operational at the earliest practicable date. This has not been completed in some cases.

D. (C) INTELLIGENCE

1. Intelligence Collection

a. ITEM: Visual Aerial Reconnaissance.

b. DISCUSSION: A test project utilizing organic O-1 aircraft for the purpose of gathering specific information through visual aerial reconnaissance in support of planning for tactical exploitation of VC tax collection activities was undertaken during the period with reasonable success. Communications difficulties were encountered due to nonavailability of radio frequencies suitable for the ground monitoring station equipment. Utilization of assigned frequencies of the supporting aviation company limited the effectiveness through continuous traffic interference, necessity for frequent relays, terrain interference, and weak signal characteristics of the airborne transmissions over such frequencies.

c. OBSERVATION: Properly coordinated application of visual aerial reconnaissance as a collection vehicle for information required to support rapid reaction for neutralization of limited scale enemy activities such as tax collection points is dependent entirely upon timely reporting. Increased efficiency in timely reporting of intelligence could be realized, and some of the limiting parameters alleviated, by the assignment of a sole user frequency to the Group, to be used for a spot report net. This would substantially improve the capability of exploiting the excellent potential for intelligence collection inherent to all aviation organizations.

E. (U) LOGISTICS

1. CS Riot Control Agent Employment

a. ITEM: CS chemical agent.

b. DISCUSSION: There is a vital need for a rapid responsive method to launch chemical agent CS by Army aircraft. 12th Combat Aviation Group has conducted several tests and determined that when ground contamination is not desired, CS must be dispersed from a burning type munition. The munitions available for this purpose are the E 158/159 CS cluster bomb and various adapters for 2.75" rocket tubes using the M742 CS grenade. The solid, powdered form CS-1 is not suitable to establish an airborne cloud of agent in airmobile operations.

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c. OBSERVATION: The most effective method to employ chemical agent CS in support of airmobile operations is to disperse the agent as a burning type munition. 34

2. Requests for Equipment in Excess of Authorized Allowance (USARV Form 47R)

a. ITEM: Processing of requests.

b. DISCUSSION: Numerous directives are received from higher headquarters for all units to submit requests for specific items of additional equipment. The items of equipment have been determined by higher headquarters as being necessary for mission accomplishment. Each unit is required to submit USARV Form 47 stating complete justification plus a unit requisition for the item of equipment. The request is processed through command channels with appropriate recommendations and comments at each level.

c. OBSERVATION: Since authoritative senior headquarters have determined that the items of equipment are essential, initiation of a request through command channels is unnecessary. The administrative burden on the small units and time required to obtain supply action is excessive. This condition could be eliminated if the higher headquarters which made the decision to obtain the equipment would obtain approval and issue a supply authorization directive to subordinate units. Requisitions could then be submitted through normal supply channels upon receipt of the authorization directive.

3. Aircraft Armament Subsystems

a. ITEM: Aircraft Armament Systems Management.

b. DISCUSSION:

(1) A variety of problems developed pertaining to armament systems. The basis of the problem was the fact that no authorization for these systems was published. Using units did not know the number and type of systems they were authorized. The problem was further complicated by a shortage of subsystems. This necessitated various improvisations to existing systems to maintain enough operational to perform the mission.

(2) FLL/ASL's were not established due to a great variety of systems and jury rigged systems.

(3) Direct support companies had no armament supply or repair capability.

(4) Another undesirable result was an uneven distribution of assets. Control procedures were inadequate and some units accumulated excess systems while others had critical shortages. The new result was poor distribution, no supply demands on the supply system, and poor control measures.

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c. OBSERVATIONS:

(1) Positive steps are in progress to correct these deficiencies. Written authorization has been published per a request from this headquarters. A physical inventory of systems and components will be completed by 14 November.

(2) PLL/ASL's have been established and are attaining operational fill.

(3) Armament repair and supply facilities have been established and are operational in each Direct Support Company.

(4) The fourth echelon repair facility at VUNG TAU is now responsive to customer service demands.

(5) The recent receipt of XM-21 systems will release sufficient XM-16 systems to fill existing shortages.

4. Management of CH-47 Aircraft

a. ITEM: CH-47 availability.

b. DISCUSSION: CH-47 availability is directly influenced by two major factors. These factors are availability of parts and hours flown. During the early part of the quarter, aircraft were committed without due consideration for maintenance management requirements. This resulted in a sharp drop in availability. A system of scheduling was developed to commit 6 aircraft per unit per day. This allowed maintenance programming with improvement in availability from 39% in the last quarter to 70% in August and 72% in September. This made it possible to commit a large number in case of emergency.

c. OBSERVATIONS: CH-47's must be carefully managed to preclude erratic fluctuations in availability. The receipt of 9 new CH-47's to begin modernization of the 147th Assault Support Helicopter Company has improved availability.

F. (U) SAFETY

1. Construction of Aviation Facilities

a. ITEM: Construction of new aviation facilities begins without concurrent planning of new traffic patterns, refueling procedures or separation of fixed and rotary wing traffic.

b. DISCUSSION: Plans for new or improved airfield facilities are made without integrated planning required for changes in patterns and procedures. In some cases this results in nothing but an increase in aircraft density in an already overcrowded area. Any improvement in facilities should be planned to reduce safety hazards simultaneously. Where possible, separation of fixed and rotary wing parking and landing - take off areas should be included in the base development plan.

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c. OBSERVATION: Battalion or Group Safety Officers should be brought into base development planning to insure that existing safety hazards are eliminated and no new ones are created during expansion or renovation.

2. Airfield Hazards

a. ITEM: Ground units utilizing airfields for staging or bivouac create hazards to safe flight.

b. DISCUSSION: In recent months an increase in the number of near accidents caused by ground units on or near airfields has been noted. Specific instances include laying barbed wire across the runway, bivouacing so close to the runway that loose items like ponchos and shelter halves are blown into rotors, and stacking ammunition and equipment right on the runway edge. In one case artillery was set up in revetments designed for helicopters, fox holes were dug on the runway, the helicopters had to park next to the runway and a hazard to fixed wing aircraft was created. On one night tactical emergency airlift, troops were on the runway while aircraft were taking off, jeeps drove up and down without regard for landing traffic and by using their headlights, effectively caused pilots to lose their night adaptation.

c. OBSERVATION: Stringent measures should be taken to insure that ground units do not create hazards to aircraft. Ground units should not be allowed to bivouac within 100 yards of any active runway or landing and take off point.

G. (U) MEDICAL

1. Role of the Flight Surgeon:

a. ITEM: Flight Surgeon Emphasis.

b. DISCUSSION: There is a need to stress the point that the Flight Surgeon is not primarily a clinical physician but rather is concerned with preventative medicine as it applies to aviation.

c. OBSERVATION: The Group Surgeon has, in conjunction with the Surgeon, 1st Aviation Brigade, engaged in an orientation program for newly arriving Flight Surgeons to assure their emphasis on preventive medicine.

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PART II RECOMMENDATIONS

37
A. (U) PERSONNEL: None

B. (U) OPERATIONS: Chemical smoke has proved valuable and should be used when gunfire preparation of LZ's is not possible.

C. (U) TRAINING AND ORGANIZATION:

A water-borne point target should be used in aerial gunnery training programs. A summary of findings has been prepared and distributed to all armed aviation units. This will change with new weapons.

D. (U) INTELLIGENCE: None

E. (U) LOGISTICS:

1. Chemical agent CS should be dispensed as a burning munition in airmobile operations. Dropping 55 gallon drums is generally not efficient.

2. When a higher headquarters determines an item of equipment to be mission essential, that the same headquarters should issue an authorization directive and unit requisitioning instructions. It should not require the subordinate units to prepare USARV Form 47.

F. (U) SAFETY: None

G. (U) MEDICAL: Greater emphasis should be placed on the role of the flight surgeon in preventive medicine as opposed to the role in clinical practice. This recommendation was forwarded to the United States Army Aviation School.

ANNEX A: Statistics
B: Helicopter Gunnery

R. P. Campbell, Jr.
RAYMOND P. CAMPBELL, Jr.
Colonel, Armor
Commanding

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12TH COMBAT AVIATION GROUP STATISTICS
FOR THE PERIOD 1 AUG 66 TO 31 OCT 66

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OPERATIONAL HOURS

RW	FW	TOTAL
55,877	30,057	85,934

SORTIES FLOWN

RW	FW	TOTAL
153,036	40,072	193,108

COMBAT SORTIES FLOWN

RW	FW	TOTAL
97,131	776	97,907

PASSENGERS CARRIED

RW	FW	TOTAL
284,633	147,314	431,947

CARGO TRANSPORTED (TONS)

RW	FW	TOTAL
21,693	13,522	35,215

ACFT CARRIED

RW	FW	TOTAL
258	44	302

COMBAT LOSS (ACFT)

RW	FW	TOTAL
10	1	11

AMMUNITION EXPENDED

7.62mm	40mm	2.75 FFAR
5,852,890	46,611	36,461

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ENEMY LOSSES/DAMAGE INFLECTED

KIA (BODY COUNT)-----323

KIA (ADDITIONAL ESTIMATED)---345

VC CAPTURED----- 12

STRUCTURES DESTROYED-----348

SAMPANS DAMAGED----- 33

SAMPANS DESTROYED-----248

SAMPANS SUNK-----149

CASUALTIES MEDICALLY EVACUATED (ARVN & US)

577

CASUALTIES (12TH CMBT AVN GP)

	CFF	WO	EM	TOTALS
KIA	2	5	4	11
WIA	27	18	54	99
MIA	1	1	2	4

RATIO OF VC KILLED (BODY COUNT) TO US KIA

20 TO 1

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 12TH COMBAT AVIATION GROUP
APO San Francisco 96491

41
AVGC-SC

3 October 1966

SUBJECT: Lessons Learned from Armed Helicopter Standardization
Training - June to September 1966

TO: SEE DISTRIBUTION

1. Background: In early June a recognized need for positive aerial gunnery training was partially solved by a letter of instructions to the Assault Helicopter Battalions of this Group. This letter outlined a training program starting at Company level, proceeding through Battalion level, and culminating in a Group level meeting of resulting top crews. By providing a definite goal towards which crews could train, it was felt that precision in marksmanship and control of weapons would result. During the period 15 through 22 September, 1966, this Headquarters conducted an armed helicopter standardization point target gunnery training program and test for the best crew from each assault helicopter unit in the 11th and 145th Combat Aviation Battalions. Firing took place on the DONG NAI river with 55-gallon barrels as point targets, intentionally a very small target for helicopter weapons. It was felt that any crew trained to hit consistently a target of this size would be able to provide much more effective combat fire when called on, with significantly greater safety for friendly troops. Using all machine guns on the XM-16 equipped armed helicopters, as well as six 2.75 FFAR rockets, firing runs were made against time in an attempt to sink the barrel. Rules prohibited overflying the target, going below 200 feet and flying at an airspeed less than 60 knots. Each crew made a minimum of four firing runs against four different targets dropped by the controller aircraft. Time from barrel drop to barrel sinking was the measure of effectiveness of each crew. Participating armed helicopter crews were able to observe at close range the tactics and techniques of other units and thereby profited by this exposure. In addition, much informal exchange of information took place. For the first time, proponents of the various techniques were required to demonstrate in public the good points (and in some cases the bad points) of their ideas. When the times and comments came in, the educational process was swift and effective. Slower operating crews improved considerably by watching better crews and in applying different attack techniques. It can be noted from the Times chart (Inclosure 1) that crews improved on each successive firing run, in particular the last five crews.

2. General Lessons Learned:

a. Armed helicopter machine guns can, in fact, be used to hit and destroy point targets. Point target accuracy can be used in all armed helicopter daily operations to further insure that no rounds will hit friendly personnel.

ANNEX B

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b. Firing machine guns against a water background graphically shows the dispersion found in each set of aircraft weapons, good or bad. Zeroing over water is an effective method for determining the size of shot groups of both rockets and machine guns for possible correction of boresighting and zeroing.

c. All units need consistent gunnery refresher training to maintain a high degree of proficiency because of replacements being received.

3. Importance of Good Pilot Technique:

a. A smooth firing approach is absolutely necessary during the firing run for point target accuracy for all weapons systems. The pilot should minimize movement of controls in his firing approach to assist the co-pilot and door gunners in staying on the target.

b. A tear drop pattern is best for quick, repeated firing passes with either of the pilots keeping the target in sight at all times. Considerable time was lost by some crews in making wide, race-track patterns, which would have allowed many point targets to disappear before a second firing pass could be made, and also made them lose sight of the target during a portion of the firing run.

c. Desire to close with a target is a 'must'. Closer range means greater accuracy, though it also increases the vulnerability of the attacking aircraft and crew. The fine line that divides maximum and minimum ranges is an aircraft commander's judgement area. Also, consideration must be given to the proximity of, and support by, the lead aircraft's wing man during subsequent firing passes by both aircraft. Close-in attacks during repeated firing passes might possibly compensate for the increased vulnerability to enemy fire.

d. Rockets should be fired well before using machine guns in order to not obscure the target and also to provide a more stable firing platform for the co-pilot and door gunners.

e. Low air-speed (below 60 knots) makes the aircraft platform less steady, and considerably more vulnerable to enemy fire. The increased length of firing time gained from a slow approach does not appear to justify the decrease in accuracy and increased vulnerability resulting from a slow firing pass.

4. Importance of Complete Boresighting and Zeroing Techniques:

a. Current Training Circulars are not definitive enough for accurate boresighting and zeroing.

b. Use of the M-5 boresighting device to boresight both the 7.62mm machine guns and the rockets takes much of the guesswork out of sighting on the boresight target.

c. For increased accuracy, all machine guns in the M-6 system must be shimmed tightly to the mount. Bottom guns must be absolutely

parallel to the top gun after shims are placed in system. This can be determined using the boresight scope.

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d. For the best accuracy against both point and area targets, machine guns should be zeroed to converge at 400 meters. With a tracer burnout of approximately 750 meters and considerably greater dispersion at that range, point targets cannot be effectively destroyed due to lack of bullet density. Further, convergence at 400 meters gives a dispersion at 800 meters that is still only the approximate width of the lateral gun separation on the aircraft. The maximum killing zone of the machine guns will then be from approximately 600 meters down to 300 meters range, within tracer range.

e. An accurate boresight target can also be used with the "target to gun" distance accurately measured. (Inclosure 2) Target and aircraft must be on level ground for best boresight accuracy.

f. Ideally, aircraft guns should also be "fired in" on the ground at a fixed target at a known distance after boresighting. As previously mentioned, if this is not possible, then a water background will give a quicker picture of where the rounds are landing in relation to the target. Water background will also present an impressive demonstration of bullet density and distribution to the entire crew. It also helps the door gunners. A 55 gallon barrel is a demanding point target in the water.

5. Mechanical Techniques that will Improve Accuracy, Limit Damage to the Aircraft and Improve Safety are:

a. Every ammunition drive motor for a M-6 gun has a different capability to pull ammunition from the boxes, depending on age and wear of the guns and the condition of the ammunition. It was found that the average, used, drive motor can pull about 1000 rounds versus its rated capacity of 1500. By removing 2 of the long ammunition boxes and loading ammunition only half the distance across the trays, approximately 1050 rounds can be stored for each gun - two guns feeding from the same tray from opposite sides. This simple adaptation assured one crew of continuously functioning weapons, as well as lightening the aircraft.

b. Use of XM-23 "expended round" bag on UH-1B door guns will prevent expended brass from these weapons hitting and damaging the tail rotor. Each bag will hold the expended brass from the average door gunner's 1000 round ammunition box. Minor modification of this bag is necessary and a special requisition has been filled in one unit.

c. Expended brass deflectors should be used on all M-6 machine guns for the same reason; to prevent damage to the tail rotor. Although issue deflectors are available for only the left hand side of the helicopter, units can easily fabricate the device for the right hand guns. (Inclosure 3)

d. A simple modification bracket (Inclosure 3) for the ammunition chute attachment to the XM-16 pylon will straighten out one of the curves in the feed chute. This change eliminates some of the stoppages

often caused by the curvature of the feed chute.

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e. Sagami door mounts for armed helicopters provide more accurate fire and will definitely make door gunners safer. Aircraft equipped with XM-16 armament systems should be required to have a Sagami gun mount for door gunners. Where it is necessary to use another holder for door guns (as on the XM-3/5 gun ship) a strap should be used rather than a bungee cord. When this is done a litter pole placed forward in the cargo doorway is required for safety purposes. As an example, during the gunnery test a door gunner inadvertently shot a pilot and sprayed the aircraft as a direct result of an improperly mounted gun breaking loose and the firing gun falling back into the aircraft. Proof was not shown that hand held door guns are more accurate; in fact, the best crews used door guns mounted on the Sagami door mount.

3 Incl
as

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RAYMOND P. CAMPBELL, JR.
Colonel, Armor
Commanding

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SUBJECT: Lessons Learned for Armed Helicopter Standardization Training
June to September 1966

1. Times for sinking barrel, Preliminary Firing Runs:

<u>PLACE</u>	<u>UNIT</u>	<u>1ST RUN</u>	<u>2ND RUN</u>	<u>3RD RUN</u>	<u>4TH RUN</u>	<u>AVERAGE</u>
1st	118th	6' 24.6"	6' 2.6"	6' 9.3"	2' 44.1"	5' 20.1"
2nd	68th	15'	4' 42.9"	4' 1.3"	6' 11.3"	7' 28.9"
3rd	116th	10' 28.4"	6' 3.6"	7' 5.3"	8' 5.6"	7' 55.7"
4th	173rd	13' 10.9"	11' 20.3"	12' 6.9"	6' 33.4"	10' 47.9"
5th	197th	15'	12' 49.4"	11' 14.0"	4' 29.5"	10' 52.7"
6th	128th	15'	7' 19.9"	-	-	11' 9.9"
7th	162nd	15'	15'	10' 19.6"	7' 9.6"	11' 52.3"
8th	A/501st	15'	15'	15'	12' 38.4"	14' 24.6"

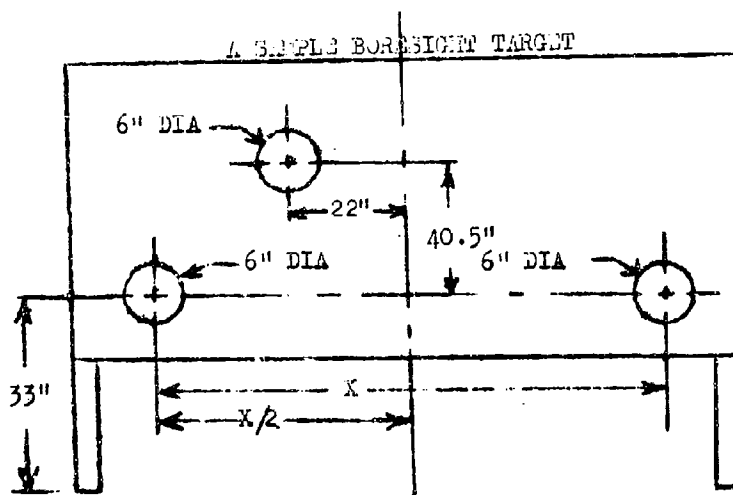
.. Times for sinking barrel, Final Firing Runs:

<u>PLACE</u>	<u>UNIT</u>	<u>1ST RUN</u>	<u>2ND RUN</u>	<u>AVERAGE</u>
1st	118th BANDITS	4' 1.8"	3' 17.6"	3' 39.7"
2nd	68th MUSTANGS	3' 27.0"	4' 11.7"	3' 48.8"
3rd	116th STINGERS	5' 19.2"	6' 40.3"	5' 58.8"

Incl # 1

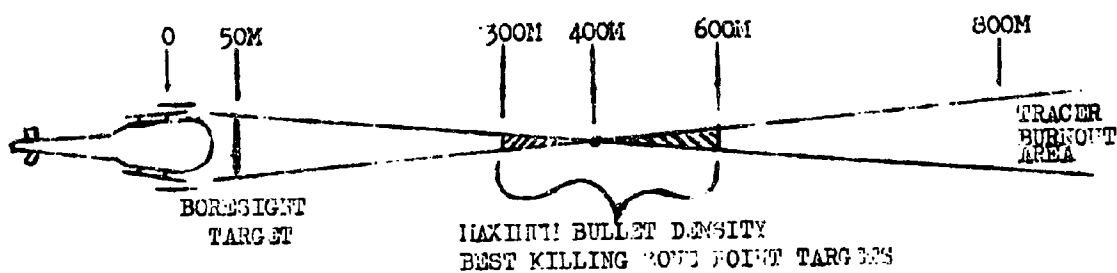
"M-6 BORESIGHTING AND ZEROING"

47



KNOWN: DISTANCE BET/WEEN GUNS 157.75".
 FOR ZERO AT 400M, TARGET AT 50M
 $X = 35/40 (157.75) = 138.03"$

NOTE: 1. ACCURATE DISTANCE TO TARGET TO GUNS
 2. M-5 BORESIGHT DEVICE

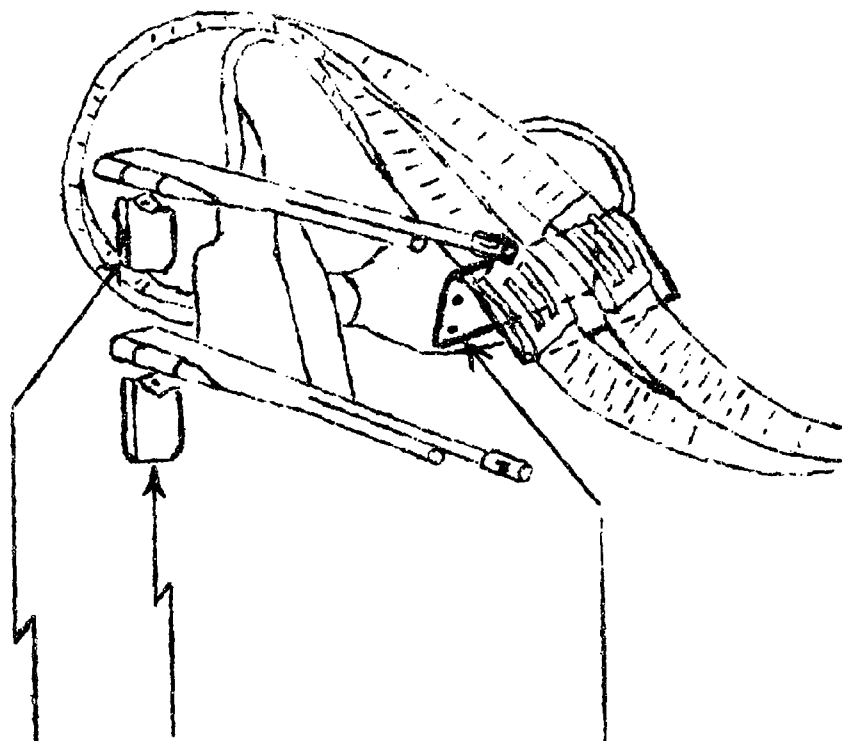


Incl 2

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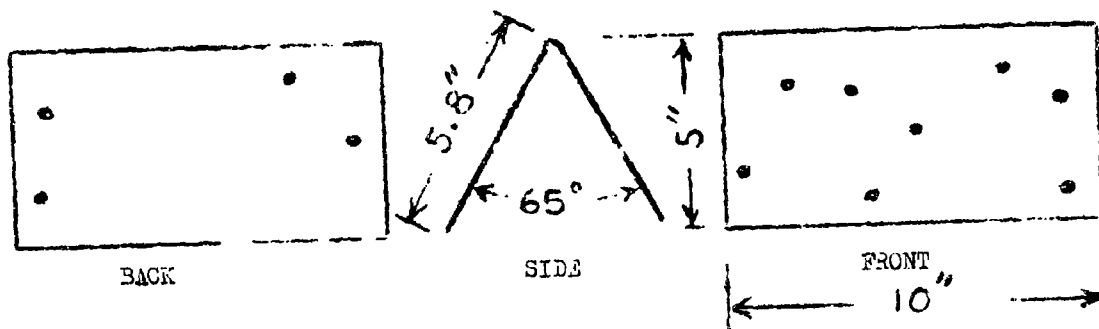
MODIFICATIONS FOR M1-16

49



BRASS DEFLECTOR - 7792531
(FSN 1005-975-3597)

DETAILED SKETCH OF
MODIFICATION BRACKET
(NO FSN)



Incl 3

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51
AVFBC-H (25 Nov 66) 1st Ind
SUBJECT: Operational Report for Quarterly Period Ending 31 October
1966 (RCS CSFOR-65)

DA, HQ, II Field Force Vietnam, APO San Francisco 96266 2 JAN 1967

TO: Commanding General, 1st Aviation Brigade, APO 96307

The enclosed Operational Report on Lessons Learned submitted by the 12th Combat Aviation Group has been reviewed by this headquarters for information and is forwarded to your headquarters for comment.

FOR THE COMMANDER:

3
A Incl
nc

William K. Hagy
WILLIAM K. HAGY
Major ARMOR
Act Asst AG.

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AVBA-C (25 Nov 66) 2nd Ind
SUBJECT: Operational Report for Quarterly Period Ending 31 October
1966 (RCS CSFOR-65)

HEADQUARTERS, 1ST AVIATION BRIGADE, APO 96307

TO: Commanding General, United States Army, Vietnam, ATTN: AVHGC-DH,
APO 96307

1. (U) This headquarters considers subject report as indorsed for the 12th Combat Aviation Group to be adequate and concurs with the contents therein.

2. (C) Subject report is forwarded with the following additional comments:

a. Reference page 31, paragraph 5: Although there is no smoke grenade with flotation capability currently under development for use with the XM-3, an ENSURE requirement for two integral smoke generators per assault helicopter company was submitted in October 1966. The addition of this generator to the units' inventory will give them adequate smoke-laying capability.

b. Reference page 31, paragraph 6: A request has been submitted to USARV stating a requirement for a lens cover to be furnished on all future Light Marker, Distress, which are a part of the individual survival kits for air crew members.

c. Reference page 34, paragraph 2: Concur in this observation. On those occasions where a unit is directed to acquire specific equipment in excess of its authorized allowances, authorization from a higher headquarters should be provided to the subordinate units. In addition, the use of Tables of Distribution and Allowances should be more widely practiced. Due to the nature of operations and the location of many aviation units in RVN, the mission of base cantonment and airfield operations is handled by these units, and their TOE equipment authorizations are neither adequate nor geared for this type mission. The current practice of submitting MTOE for all equipment items is unwieldy and not a recommended practice in the opinion of this command. Establishment of TDA's would be of great assistance in streamlining property accountability and authorizations for the theater.

d. Reference page 35, paragraph 4c:

(1) The CH-47 modernization program covered in this paragraph was a local program to take new CH-47's that arrived in Vietnam as float stock,

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1966 (RCS CSFOR-65)

place them in the 147th Aviation Company, thus releasing the 62 models in the 147th for float stock.

(2) Currently under study is a program to take the high time CH-47's in Vietnam and put them through depot maintenance at Air Vietnam. This program should start in late January or early February 1967.

(3) The 34th General Support Group is currently working with AVCOM and ARADMAC to start a CH-47 modernization program at ARADMAC. If this program is approved it should start in March 1967.

e. Reference page 19, paragraph 2c: All in-country Army requisitions for airfield lighting sets were submitted through Hq, FFV and IV CTZ Advisor to Hq, 1st Avn Bde for consolidation. These requisitions were given to Hq, 1st Log Cdn on 17 Nov 66 for appropriate supply action. Items are currently on requisition. This action was in accordance with USAFV letter AVHGD-SP, dated 1 Oct 66, subject: Requirement for Airfield Light Sets.

f. Reference page 37, paragraph G: Granted that aviation medicine is preventive medicine in its application, flight surgeons should never forget that as a physician their primary responsibility is the treatment of disease. A flight surgeon would be negligent in his duty if he did not care for the illnesses among his command. Flight surgeons will continue to treat disease first and fly with the operation secondly.

FOR THE COMMANDER:

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W. L. VINETTE
Major, AGC
Adjutant General

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AVHGC-DH (25 Nov 66) 3d Ind
SUBJECT: Operational Report-Lessons Learned for the Period Ending
31 October 1966 (RCS CSFOR-65)

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96307

22 FEB 1967

TO: Commander in Chief, United States Army, Pacific, ATTN: GFOP-OT
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the period ending 31 October 1966 from Headquarters, 12th Combat Aviation Group as indorsed.

2. Pertinent comments are as follows:

a. Reference Paragraph G7, Section I, Page 12: Command action was initiated in October 1966 to obtain a refined identification of requirements as the basis for more responsible supply. Meeting between representatives of the 1st Logistical Command, 1st Aviation Brigade, and/combat commands established equipment requirements for the various type units stationed in RVN. These were reviewed and approved at a command conference convened at this headquarters on 5 November 1966. This information has been provided to interested CONUS commands and agencies with the request that standard techniques and equipment lists be published and distributed for the many type load/helicopter combinations. Information available to this headquarters indicates that required actions are in process. It is anticipated that with the expedited procurement presently approved for helicopter nets and slings, supply availability will show considerable improvement within the next 90 days.

b. Reference Paragraph B1, Part I, Section II, Page 30, Item: Safeguarding Aircraft from Artillery Fire: Concur. The new procedure, as published by II Field Force Vietnam, provides complete and immediate information on artillery fires to aircraft as well as removing the restriction of confining flight paths through specified corridors.

c. Reference Paragraphs B4 and B5, Part I, Section II, Page 31, Item: Airmobile Operation in Pacification Areas; Paragraph B, Part II, Section II, Page 37; and Paragraph 2a, 2d Indorsement: Concur. As indicated, the use of smoke reduces aircraft exposure in LZ's which have not been prestriking. The availability of internal smoke generators will increase a unit's capability to employ this means of

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AVHGC-DH (25 Nov 66)

SUBJECT: Operational Report-Lessons Learned for the Period Ending
31 October 1966 (RCS CSFOR-65)

defense against enemy action. However, an overriding consideration will require detailed planning by the airmobile task force commander to insure that use of smoke will not affect and induce adverse reaction from the villages in the pacification plan which are located in close proximity to LZ's.

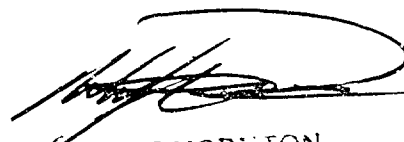
d. Reference Paragraph E4, Part II, Section II, Page 35, Item: Management of CH-47 Aircraft; and Paragraph 2d, 2d Indorsement: Concur. The attainment of high availability still requires stringent employment procedures to retain programmed availability and utilization standards over a long period of time. Otherwise, daily commitments of all flyable assets will serve to reduce availability rates back to an unacceptable level.

e. Reference Paragraph E2, Part I, Section II, Page 34; Paragraph E2, Part II, Section II, Page 37; and Paragraph 2c, 2d Indorsement: Letters of authorization issued by this or higher headquarters are sufficient authority for the unit to requisition the equipment. However, the unit must still submit an MTOE if the equipment is to be retained on a permanent basis. USARV Form 47-R (Request for Equipment in Excess of Authorized Allowances) will continue to be submitted by units requesting equipment over and above that authorized by their TOE. Whenever a subordinate USARV headquarters issues instructions to a subordinate unit to request equipment in excess of TOE authorizations, it is the prerogative of that headquarters to determine who will prepare and submit USARV Form 47-R.

f. Reference Paragraph 2b, 2d Indorsement: Request for lens cover to be furnished on all Light Marker, Distress was approved by Department of the Army on 24 December 1966.

FOR THE COMMANDER:

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R. J. THORNTON
1st Lt, AGC
Asst Adjutant General

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GPOP-OT(25 Nov 66)

4th Ind (U)

SUBJECT: Operational Report-Lessons Learned for the Period Ending
31 October 1966 (RCS CSFOR-65), HQ 12th Cbt Avn Gp

HQ, US ARMY, PACIFIC, APO San Francisco 96558

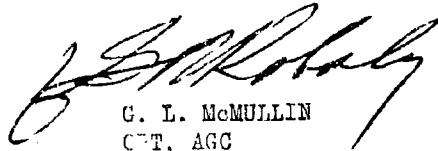
18 MAR 1967

TO: Assistant Chief of Staff for Force Development, Department of the
Army, Washington, D. C. 20310

This headquarters concurs in the basic report as indorsed.

FOR THE COMMANDER IN CHIEF:

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G. L. McMULLIN
CPT, AGC
Asst AG

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